

DSS/VITA

RFI for Interface Broker Software Solution

Purpose of the RFI

The Commonwealth of Virginia's Department of Social Services is seeking information from those in the information technology (IT) vendor community who can provide an interface broker (Broker) software solution. The information provided in relation to a proposed solution(s) should take into consideration and discuss the following subject areas.

1. Integration Broker Suites
2. Programmatic Integration Software
3. Common Object Request Broker Architecture
4. Middleware

Definitions

- **Integration Broker Suites**¹ supply transformation and intelligent (for example, content-based) routing. It generally includes or complements message-oriented middleware (MOM). These generally include related features, such as adapters and adapter development toolkits, Web services, and metadata and management facilities. These suites support Component Object Model (COM) and Java, and are application-server-neutral.
- **Programmatic Integration Software**² for integrating J2EE or .NET applications with legacy applications, which they do by supporting web services and service-oriented architecture. They are also used to alter the presentation capabilities of established applications for web-based presentations, for example, the creation of Active Server Pages/Java Server Pages (ASP/JSP).
- **Common Object Request Broker Architecture** (CORBA) is an architecture and specification for creating, distributing, and managing distributed program objects in a network. It allows programs at different locations and developed by different vendors to communicate in a network through an "interface broker." CORBA was developed by a consortium of vendors through the Object Management Group.
- **Middleware** is a general term for any programming that serves to "glue together" or mediate between two separate and often already existing programs. A common application of middleware is to allow programs written for access to a particular database to access other databases. Typically, middleware programs provide messaging services so that different applications can communicate. The systematic

¹ Definition compiled from "Integration Brokers, Application Servers and APSs," October 29, 2002, Gartner, Inc., and "Hype Cycle for Application Integration and Platform Middleware, 2003," May 30, 2003. Used with permission.

² Definition compiled from "Programmatic Integration Servers Are a Growth Opportunity," March 20, 2003, Gartner, Inc. Used with permission.

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tying together of disparate applications, often through the use of middleware, is known as enterprise application integration (EAI).

Objective

The Commonwealth is interested in acquiring an interface solution that acts as a "broker" between a client request for a service from a distributed object or component and the completion of that request (e.g., a client program can request a service without having to understand where the server is in a distributed network or exactly what the interface to the server program looks like, and components can find out about each other and exchange interface information as they are running). Such a solution may be thought of as strategic middleware that is more sophisticated conceptually and in its capabilities than earlier middleware, including Remote Procedure Calls (RPCs) message-oriented middleware, database stored procedures, and peer-to-peer services.

The Broker acquired, would be installed and implemented under the Commonwealth's enterprise (statewide) approach in accordance *Commonwealth of Virginia Strategic Plan for Technology's* vision to "revolutionize service delivery" and "consolidate IT infrastructure and provide centralized services." This Broker system would be a core infrastructure component of e-government in the Commonwealth. As an infrastructure application, it will be implemented and managed from a statewide perspective, and it will serve as a common, shared service for all Commonwealth agencies and other government entities desiring to use it. As such, this system must provide integration between disparate applications and legacy systems.

Scope

The intent of this RFI is solely to gather information; it is not a formal procurement. However, a formal procurement action may result from this information-gathering endeavor. The purpose of this RFI is to:

- Obtain IT vendor/firm information
- Obtain product information pertinent to any of the subject areas
- Obtain information regarding successful implementations of complete or partial connectivity infrastructure solutions, in either public or private organizations
- Obtain information regarding your firm's substantial experience with legacy systems in either of the two subject areas, especially those involving integration with Unisys ClearPath IX MAPPER (Business Information Server) and UNIX (Solaris) MAPPER (Business Information Server).
- Obtain information regarding available informal presentations or demonstrations of relevant product(s)

Description of Current Environment

DSS and VITA are seeking an enterprise system that other state and local departments and agencies systems (such as the DGS statewide Electronic Procurement System, eVA)

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can easily utilize and benefit from this system. DSS will be the initial implementation of the enterprise system.

An enterprise system must be easily utilized by state and local departments and agencies in order to offer maximum benefit. A chosen solution would offer connectivity to other agency systems such as the DGS statewide Electronic Procurement System, eVA. DSS will be the initial implementation of this enterprise system.

DSS distributes services from its central location in Richmond to over 200 offices in localities throughout the Commonwealth. The Virginia Information Technologies Agency (VITA) is the data center for DSS. VITA manages a Domain Name System (DNS) for the primary domain **vita.virginia.gov** as well as operates a large data center in the Richmond Plaza Building located at 110 South 7th Street in Richmond, Virginia. VITA's computer facility has over 100,000 square feet devoted to data processing and associated services. Included are a 50,000 square foot computer equipment room, modern educational conference rooms, advanced security, fire detection/suppression units, disaster recovery plans, and facilities. VITA provides mainframe and server based services in the IBM OS/390, UNISYS OS2200, UNIX, and Microsoft Windows/NT environments.

DSS core services must be supported and are provided mainly through the UNISYS CS7802 platform and CP/IX/OS2200 operating system environment. Significant services are also located on the following platforms/operating systems: O/S 390 w/ 3705 compatible FEP/MVS, Sun Sparc/Solaris 8 and 9, and Linux. Databases and software include: MAPPER 43R1, MAPPER for Solaris 8R1E5, COBOL, IBM IMS 5.1 DB2 v5.0, Oracle 7.3.4/8i/9i, Oracle Apps 11i, ISAM, VSAM, SQL Server, Intel x86 server, Windows 200x server, and DMS 2200.

Network communications security is supported by application proxy firewall products. DSS wishes to integrate its legacy environment with various remote host environments running Solaris, Linux, Windows 2000 and Windows 2003. These platforms would also include The Apache Web Server, Microsoft Internet Information Server (IIS) with development environments supported by WYSIWYG HTML Editors, LAMP, J2EE, Websphere and custom Perl, Java and C code.

VITA provides the Commonwealth with telecommunications circuits consolidated under a contract with MCI WorldCom with statewide coverage data services known as - COVANET. COVANET is the Wide Area Network (WAN) backbone for Virginia public bodies. Under this contract data services are provided over MCI WorldCom's commercial network (for example, private lines, EDI, Internet) as well as frame relay and ATM services provided via a private network dedicated to the Commonwealth of Virginia. In addition, MCI WorldCom's public ATM and frame relay services are available for select applications.

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The larger state universities (i.e., VCU, VPI, UVA, etc.) and the State Capitol grounds are supported by the Campus Area Networks (CAN). The Virginia Capitol Campus Network (CCN) is a data network comprised of twenty-three occupied state-owned buildings that surround the State Capitol. The CCN hosts most of the major state support agencies (DOA, DPB, DPT, DGS, etc). The CCN is protected from outside intruders by a Checkpoint Enterprise w/Encryption Firewall running on a multi-processor NT server.

As the ASP for the Broker system, VITA must develop and implement a charging approach for government organizations using VITA data center services (customers). VITA is anticipating that the pricing and invoicing methodology will be transaction based. The respondents are encouraged to develop pricing strategies (e.g., tiered pricing based on transaction volumes) to support this pricing methodology, as well as any of the pricing/charging offers that the respondents feel will best encourage agencies to use the system. To that end, the following guidelines apply to the system interfaces envisioned for the Broker system:

- Electronic government data communications shall be protected from unauthorized modification.
- Electronic government data communications shall be protected from undetected modification.
- Electronic government data communications shall be protected from undetected transmission errors.

Response Format

Responses should be organized in the exact order in which the General Functionalities are presented in the RFI and should be page numbered. Responses should contain a table of contents, which cross-references the RFI General Functionality, and the specific page in your the response. Each paragraph in the response must correspond to and reference the paragraph number in the corresponding section of the RFI. The vendor must repeat the paragraph number, sub-letter, and text of the requirement as it is presented in the RFI.

Respondents are requested to adhere to the following general instructions in order to bring clarity and order to the RFI preparation and subsequent evaluation process:

- a Response must be submitted by email and, depending on the size of the accompanying technical information file, may be submitted on a CD-ROM
- b Responses should be complete and comprehensive, with a corresponding emphasis on being concise and clear.

General Functionality

The following are minimum technical requirements. Additional and/or alternative functionality is encouraged and should be included a separate reference page.

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Enterprise Architecture

1. Comply with all relevant Commonwealth of Virginia Information Technology Resource Management Policies Standards and Guidelines, including, but not limited to: (See: www.vita.virginia.gov/docs/psg.cfm)
 - a. Middleware Architecture
 - i. COV ITRM Standard MID2001-01.1
 - ii. COV ITRM Guideline MID2001-01.1
 - b. Networking and Telecommunications
 - i. COV ITRM Policy NET2001-01.1
 - ii. COV ITRM Standard NET2001-01.1
 - iii. COV ITRM Guideline NET2001-01.1
 - c. Security
 - i. COV ITRM Policy 90-1
 - ii. COV ITRM Standard SEC2001-01.1
 - iii. COV ITRM Guideline SEC2001-01.1

Protocol Support

1. Support the following transport protocols/distributed technologies for outbound documents: HTTP / HTTPS / FTP / SMTP / Fax / DCOM / COBRA / EJBs/ lpr(d)

Message-orientated Middleware (MOM) Support

1. Support Message-orientated Middleware (MOM), i.e. Microsoft MSMQ / IBM MQSeries / BEA Tuxedo / others.
2. Support Java Message Service (JMS) application programming interface (API).

File Format Support

1. Support natively the following file formats: XML / delimited flat files / positional flat files / EDI X12 / EDI EDIFACT
2. Provide templates for EDI transaction sets
3. Support custom file layouts using a graphical tool and importation of definitions (i.e., DTD / Schema / others).
 - a. Support a repository (i.e., database / WebDAV / other) for storing the defined layouts / DTD / schemas.

Message Transformation

1. Support document transformation from one format to another and provide a graphic mapping tool to do transformation.

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2. Support data changing and data manipulation.
3. Support message flow capabilities, and provide related graphic tools and intelligent adapters.
4. Support scripting language support for customization and additional logic within message flows
5. Support the development of custom adapters.
6. Support transactional message flow.
7. Support user-level access of message definitions, transformations, adapters, message flows and data in a shared environment.
8. Support dynamic routing of documents.
9. Support a publish-and-subscribe messaging paradigm.
10. Support synchronous and asynchronous messaging.

Message Warehouse

1. Support message-tracking/message warehousing and related:
 - a. Field-level selectivity
 - b. Server statistics/server usage.
2. Support guaranteed message delivery
3. Support error handling.
4. Support a repository for undeliverable messages.
5. Support custom “plug-ins” or parsers that:
 - a. Provide APIs and tools
 - b. Support languages, such as: C++, C#, COBOL, Perl, Python, Basic, Java, ANSI C.
 - c. Support the following platforms: Windows 200x, Unix (Solaris, AIX, HP-UX, Linux), OS/390, Unisys
6. Support the development of custom adapters/integration components:
 - a. Provide APIs and tools
 - b. Support the following languages: any COM+ capable language such as C++, Basic, Java, ANSI C.
 - c. Support the following platforms: Windows 2000, Unix (Solaris, AIX, HP-UX), OS/390, Unisys
 - d. Support the following database applications: Unisys ClearPath IX MAPPER 43R1, MAPPER for Solaris 8R1E5, COBOL, IBM IMS 5.1 DB2 v5.0, Oracle 7.3.4/8i/9i, ISAM, VSAM, SQL Server, and DMS 2200
 - e. Support intelligent adapters for the integration broker
 - f. Provide the licensing model used
 - g. Support third-party vendors offering adaptors for the integration broker
7. Support native API for accessing product functionality and provide:
 - a. API tools
 - b. Support of additional languages

Scalability

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1. Support clustering.
2. Support scalable to include deployment to entities throughout the Commonwealth
3. State what additional hardware or software maybe required a various transaction volume levels.
4. Support increased usage volume without causing degradation of performance or reliability.
5. Provide any scaling limitations within your solution.
6. Support tools for basic reporting.

Administrative Tools

1. Support remote administration and provide related tools.
2. Support multiple instances of the product running on the same machine.
3. Support version control and advise the current version of the product.
4. Support the maintenance of status information
5. Support integration of the product in and enterprise Web portal environment.
6. Detail the licensing model used for the administrative tools.
7. Support distributed user administration

Security

1. Support security in the context of the infrastructure functional above.
2. Support IP Security Protocol (IPSec) policies for use with IPSec connections between service hosts.
3. Support the use of digital certificates issued and verified by a Certificate Authority (CA) as part of a public key infrastructure (PKI).
4. Support historical logging
5. Support strong password enforcement
6. Support LDAP/DAP authentication and active directory
7. Support distributed user administration

Please submit your firm's response to this RFI via e-mail to (dgp900@dss.state.va.us), no later than September 26, 2003. Further questions and RFI responses will be received by:

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